

In the Claims

1 (currently amended). A method for increasing the resistance of a plant to an environmental stress condition, said method comprising introducing a polynucleotide into said plant, wherein said polynucleotide comprises a coding region that encodes a β -amylase enzyme, and expressing said polynucleotide during an environmental stress condition whereby said plant exhibits increased resistance to said environmental stress condition~~polypeptide that produces, catalyzes the synthesis of, or results in the production of maltose or a maltose alcohol.~~

2 (previously presented). The method according to claim 1, wherein said environmental stress condition is selected from the group consisting of thermal stress, water stress, and salt stress.

3 (previously presented). The method according to claim 1, wherein said thermal stress is heat stress.

4 (previously presented). The method according to claim 1, wherein said thermal stress is cold stress.

5 (canceled).

6 (currently amended). The method according to claim [[5]] 1, wherein said β -amylase enzyme exhibits reduced inhibition by maltose.

7 (currently amended). The method according to claim [[5]] 1, wherein said β -amylase enzyme ~~is thermostable~~ exhibits increased thermostability.

8 (previously presented). The method according to claim 1, wherein said polypeptide encoded by said polynucleotide comprises an amino acid sequence that targets said polypeptide for

chloroplast localization.

9 (previously presented). The method according to claim 1, wherein said polynucleotide comprises a promoter sequence operably linked to said coding region of said polynucleotide.

10 (previously presented). The method according to claim 9, wherein said promoter is an inducible promoter.

11 (previously presented). The method according to claim 10, wherein said inducible promoter is induced by an environmental stress condition selected from the group consisting of heat stress and cold stress.

12 (previously presented). The method according to claim 11, wherein said heat stress inducible promoter is a promoter selected from the group consisting of an *Hsp70*, *Hsp101*, and *Hsp17.6* promoter.

13 (previously presented). The method according to claim 11, wherein said cold stress inducible promoter is a promoter selected from the group consisting of a *Cor78*, *Cor15b*, and galactinol synthase promoter.

14 (canceled).

15 (previously presented). The method according to claim 1, wherein said plant is a monocot.

16 (previously presented). The method according to claim 15, wherein said monocot is selected from the group consisting of rice, wheat, barley, oats, rye, sorghum, maize, lilies, banana, pineapple, turfgrass, gladiolus, and millet.

17 (previously presented). The method according to claim 1, wherein said plant is a dicot.

18 (previously presented). The method according to claim 17, wherein said dicot is selected from the group consisting of cotton, peas, alfalfa, chickpea, chicory, clover, kale, lentil, prairie grass, soybean, tobacco, potato, sweet potato, radish, cabbage, rape, apple trees, coffee, tomato, melon, citrus, beans, roses, sugar beet, squash, peppers, strawberry, carnation, chrysanthemums, impatiens, eucalyptus, and lettuce.

19 (currently amended). The method according to claim 1, wherein said polypeptide is overexpressed in said plant upon exposure of said plant to said environmental stress condition relative to a plant of the same variety wherein said polynucleotide has not been introduced.

20 (currently amended). A transgenic or transformed plant, plant tissue, or plant cell ~~transformed with or bred to contain~~comprising a polynucleotide that comprises a coding region that encodes a β -amylase enzyme~~polypeptide that produces, catalyzes the synthesis of, or results in the production of maltose or a maltose alcohol~~, wherein expression of said polynucleotide in said plant, plant tissue, or plant cell increases the resistance of said plant, plant tissue, or plant cell to an environmental stress condition.

21 (previously presented). The plant, plant tissue, or plant cell according to claim 20, wherein said environmental stress condition is selected from the group consisting of thermal stress, water stress, and salt stress.

22 (previously presented). The plant, plant tissue, or plant cell according to claim 20, wherein said thermal stress is heat stress.

23 (previously presented). The plant, plant tissue, or plant cell according to claim 20, wherein said thermal stress is cold stress.

24 (canceled).

25 (currently amended). The plant, plant tissue, or plant cell according to claim [[24]] 20, wherein said β -amylase enzyme exhibits reduced inhibition by maltose.

26 (currently amended). The plant, plant tissue, or plant cell according to claim [[24]] 20, wherein said β -amylase enzyme is ~~thermostable~~exhibits increased thermostability.

27 (previously presented). The plant, plant tissue, or plant cell according to claim 20, wherein said polypeptide encoded by said polynucleotide comprises an amino acid sequence that targets said polypeptide for chloroplast localization.

28 (previously presented). The plant, plant tissue, or plant cell according to claim 20, wherein said polynucleotide comprises a promoter sequence operably linked to said coding region of said polynucleotide.

29 (previously presented). The plant, plant tissue, or plant cell according to claim 28, wherein said promoter is an inducible promoter.

30 (previously presented). The plant, plant tissue, or plant cell according to claim 29, wherein said inducible promoter is induced by an environmental stress condition selected from the group consisting of heat stress and cold stress.

31 (previously presented). The plant, plant tissue, or plant cell according to claim 30, wherein said heat stress inducible promoter is a promoter selected from the group consisting of an *Hsp70*, *Hsp101*, and *Hsp17.6* promoter.

32 (previously presented). The plant, plant tissue, or plant cell according to claim 30, wherein said cold stress inducible promoter is a promoter selected from the group consisting of a

Cor78, *Cor15b*, and galactinol synthase promoter.

33 (canceled).

34 (previously presented). The plant, plant tissue, or plant cell according to claim 20, wherein said plant is a monocot.

35 (previously presented). The plant, plant tissue, or plant cell according to claim 34, wherein said monocot is selected from the group consisting of rice, wheat, barley, oats, rye, sorghum, maize, lilies, banana, pineapple, turfgrass, gladiolus, and millet.

36 (previously presented). The plant, plant tissue, or plant cell according to claim 20, wherein said plant is a dicot.

37 (previously presented). The plant, plant tissue, or plant cell according to claim 36, wherein said dicot is selected from the group consisting of cotton, peas, alfalfa, chickpea, chicory, clover, kale, lentil, prairie grass, soybean, tobacco, potato, sweet potato, radish, cabbage, rape, apple trees, coffee, tomato, melon, citrus, beans, roses, sugar beet, squash, peppers, strawberry, carnation, chrysanthemums, impatiens, eucalyptus, and lettuce.

38 (currently amended). The plant, plant tissue, or plant cell according to claim 20, wherein said polypeptide is overexpressed in said plant upon exposure of said plant to said environmental stress condition relative to a plant of the same variety wherein said polynucleotide has not been introduced.

39 (previously presented). A plant grown from a plant tissue or plant cell of claim 20.

40 (canceled).

41 (new). A progeny plant, plant tissue, or plant cell obtained from breeding a plant as defined in claim 20.